

# F00041

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NOAA FORM 76-35A	
U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL OCEAN SERVICE	
DESCRIPTIVE REPORT	
Type of Survey .....	Field Examination
Field No. ....	
Registry No. ....	F00041
LOCALITY	
State .....	Alaska
General Locality .....	
Sublocality .....	Sitka Sound
.....	
1943	
CHIEF OF PARTY	
.....	
LIBRARY & ARCHIVES	
DATE .....	

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as: FE No.4 1943



20 MC  
22-504  
80 103  
23  
821  
1943 AUG 27 PM 2:11  
POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

MV WESTDAHL  
August 15, 1943

4  
F.E 4  
of  
1943

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES

JUL 30 1947

ACC. No. S-2487

TO : The Director  
U.S.Coast & Geodetic Survey  
Washington D. C.

From: Commanding Officer  
MV WESTDAHL  
Skagway, Alaska

Subject: Hydrography of dredged areas Sitka Harbor

Under separate cover are being forwarded one print (boat sheet) Siems Drake Puget Sound S-1237 on which are plotted the hydrography and one sounding volume.

For the hydrography in vicinity of Harbor Rock light the control points are indicated on the print as A to F inclusive and were recognizable points in the field. Triangulation station BOR 1938 was located by sextant angles from the same objects for consistency and agrees well with its geographic position.

For the hydrography in vicinity of Harbor Island and Aleutski Island triangulation stations ALEUT---BILL-- and Columbia Lumber Co. stack 1938 were plotted from geographic coordinate lines shown on the print. the print shows lines of longitude every 30 seconds and as we didnot agree with the position of 135°-20'-00" line station stack was plotted from 135°-20'-30".

The rectangular coordinates of four triangulation stations are printed on the boat sheet the data coming from the Public Works Officer and this data will be listed at the end of this report.

This data is being forwarded to Washington for processing so that a new edition of the harbor at Sitka can be made on Chart 8214. Changes on the Japonski Id. shore line are shown and the soundings are up to date.

From my verbal conversation with the Public Works officer it is doubtful if any further dredging will be accomplished. Altho drillin has been completed at Harbor rock and westward into the channel all that was dredged in this area was a 150 foot strip, approximately 150 feet west of the light in the middle of the channel. If this status quo remains it appears that our hydrography has covered all the changes made.

*This field examination has been verified  
and this can be applied to the charts  
Robert W. King*



- 2 -

It appears desirable that additional work could be done in these dredged areas but we allotted one day to the job as we had orders to proceed to Skagway which at the time appeared to be urgent. If further work is desired this could be accomplished upon our return to Sitka.

The Public Works officer expressed a desire for a copy of the smooth sheet and with such adjustments as may be necessary in Washington between our G.P. and their ~~g.m.~~ rectangular coordinates some displacement of sounding lines may occur.

The original sheet upon which the hydrography was accomplished was turned over to the Public Works officer ( as preliminary data) and the print being forwarded to Washington has been plotted from the hydrographic record. The Public Works officer was having a print made for the Cap't of the Port which he was forwarding to Ketchikan to Coast Guard headquarters. As mentioned in my previous letter there was no definite information on depths through the dredged channel.

There follows rectangular coordinates of several triangulation stations:

NAVY 1938 (now covered with fill)--	N 4000.00 (apparently their origin)
	E 6000.00
U.S.E. 1 1938 ----	N 2854.59
	E 6883.39
BILL 1938	N 3134.03
	E 8089.78
SKI 1938	N 2500.14
	E 2869.51

Charles Pierce Lt. Cmdr. USC&GS  
C.O. MV WESTDAHL



20  
E0422  
27 16

FATHOMETER REPORT

Dorsey III -- No. 41 and 808-A Depth Recorder No. 62

U.S.C. & G.S. MV WESTDAHL

U.S. COAST & GEODETIC SURVEY  
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Project CS - 247

JUL 30 1947

ACC. No. S-2487

Sitka Sound, Alaska

Season of 1943

Charles Pierce

Chief of Party



# FATHOMETER CORRECTION REPORT

U. S. C. & G. S. WESTDAHL

1943

## ALASKA

DORSEY III-- No. 41 and 808A Depth Recorder -- No. 62

Project CS-247-- Sitka Sound, Alaska

This Report covers fathometer corrections for hydrography done with the Dorsey III fathometer and the 808A Depth Recorder during the 1943 Alaska season in Sitka Sound.

## SERIAL TEMPERATURES

Serial temperatures were taken June 11, 1943 off Biorka Island and on July 12, 1943 west of Kanga Bay. A mean temperature and salinity curves were drawn from which the fathometer corrections were computed using the graphic method.

## DRAFT SETTING

The draft setting for the Dorsey III fathometer was maintained at 7½ feet during the season and agreed within one inch of the average draft of the vessel, at transceiver position. This position of the transceiver is marked by a brass plate on the deck with vertical distance between transceiver and deck stamped on plate.

The 808A depth recorder was set to record correct depths below the water surface daily.

## CALIBRATION

The Dorsey III fathometer dial speed was checked several times during the season and found correct. Observations of May 24, 1943 are as follows:

Rev's of 1000 dial

Chronometer period  
in seconds.

150	6'-6"
150	6'-6"
150	6'-6"
150	6'-6"

$150 \times (2000) \div 366 = 819.672$  fathoms per second factor =  $\frac{0.328}{820} = 0.00040$

## COMPARISONS



The usual vertical casts with sounding machine or hand lead were taken daily. These comparisons indicated proper operation of the instrument and were not used to obtain any index correction.

The usual procedure with the 808A depth recorder was to set the bar at two, five and seven fathoms and set the recorder to read correct. When sea conditions were possible ( the general rule) this was done before starting the days work and before sounding commenced after lunch. The R.P.M.'s of the marking stylus was checked with a stop watch at least twice a day and further verified during the day by the operation of the tachometer. At the beginning of the season the vibratory tachometer was not functioning properly, all reeds vibrating at about the same frequency. The radio technician placed a small spot of solder on one side of the governor disc, thus causing it to be slightly off balance, and this resulted in very satisfactory operation of the tachometer.

#### CORRECTION COMPUTATIONS

All of the fathometer corrections for both the Dorsey III and the 808A depth recorder were computed by use of "Velocity Corrections by Graphic Means, Field Memorandum 2-1941.

Corrections were taken from the graphs in value of even feet and it will be noted that two curves are drawn on the fathometer correction graph, one for the DORSEY III instrument and the other for the 808A depth recorder. As the depth recorder was set to read correct to seven fathoms, salinity and temperature corrections were started at ten fathoms.

Attached to and made a part of this Original Report are graphs of water Temperatures and Salinities and Fathometer correction graphs.

Respectfully Submitted.

*Charles Pierce*  
Charles Pierce, Lt. Cmdr. USCGC  
November 23, 1943



# FATHOMETER CORRECTIONS

Computed by Graphic Means Field Memorandum No. 2-1941

For hydrographic sheets Field Nos. 1442-3---1443A---1342-3

From June to August 1943

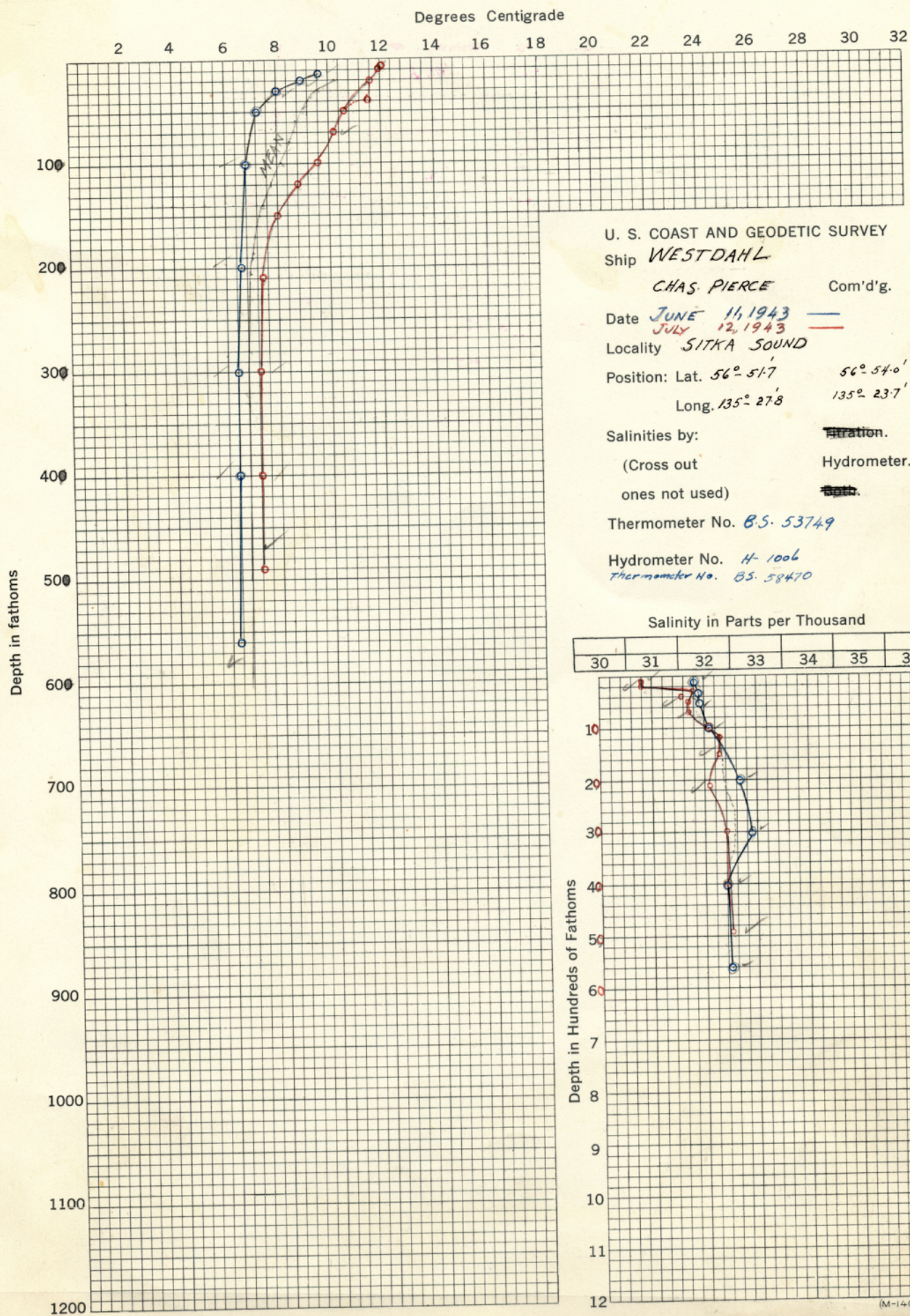
For 808A Depth Recorder

For DORSEY III

<u>Depth(fthms.)</u>	<u>Corrections(feet)</u>	<u>Depth(fthms.)</u>	<u>Corrections(ft.)</u>
10 to 17½	- 1	4 to 14	- 1
17½ to 27	- 2	14 to 23	- 2
27 to 36	- 3	23 to 32	- 3
36 to 44½	- 4	32 to 40	- 4
44½ to 53½	- 5	40 to 49	- 5
53½ to 62	- 6	49 to 58	- 6
62 to 60	- 7	58 to	- 7



# GRAPH OF WATER TEMPERATURES AND SALINITIES





FEET

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

FEET  
CORRECTIONS IN FATHOMS

# FATHOMETER CORRECTIONS

## U.S. Coast and Geodetic Survey

Ship WESTDAHL  
CHAS. PIERCE Comdg.

These corrections are to be used  
between JUNE 1943 and August 1943  
in the locality SITKA SOUND

for hydrographic surveys Nos. 1442-3-1443A  
1342-3

VELOCITY CORRECTIONS by Graphic MEANS  
FIELD MEMORANDUM 2-1941

(For deep water add a 0 to these figures)

DEPTHS IN FATHOMS

DEPTH RECORDER SET TO READ CORRECT AT 7 Fathoms with Bar  
Corrections in Feet For 808-A Depth Recorder

Depth (Fthms.)

Corr. Feet

Dorsey III

Depth (Fthms.)

10 - 17 1/2 ✓

- 1 ✓

4 - 14 ✓

17 1/2 - 27 ✓

- 2 ✓

14 - 23 ✓

27 - 36 ✓

- 3 ✓

23 - 32 ✓

36 - 44 1/2 ✓

- 4 ✓

32 - 40 ✓

44 1/2 - 53 1/2 ✓

- 5 ✓

40 - 49 ✓

53 1/2 - 62 ✓

- 6 ✓

49 - 58 ✓

62 - ✓

- 7 ✓

58 - ✓



Field Examination No. 4.

Scale = 1" to 200'

1943

SEE H-7163 (1945)

A. MAY 1938 - N 4600.00  
E 6000.00

A. U.S.E. M. 1 - N 2124.57  
E 6833.39

A. BULL 1938 - N 3126.03  
E 8019.75

A. S. 1118 - N 2500.14  
E 2149.51

Depth 65.0

Ponto. 4613

Soundings reduced and checked  
in Washington office.

Corrected depths are in red  
above incorrect depths.

H.R.C.  
11/15/43

Examined for Remarks 8281. No correction. 2nd 6-21-59. Field Examination No. 4, 1943

CONTRACT NO. 3570  
ALASKAN AIR BASE CONSTRUCTION

SITKA HARBOR  
CHANNEL

SILVER DRAGON PUGET SOUND

DATE 10/20/50 BY 11/20/50



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